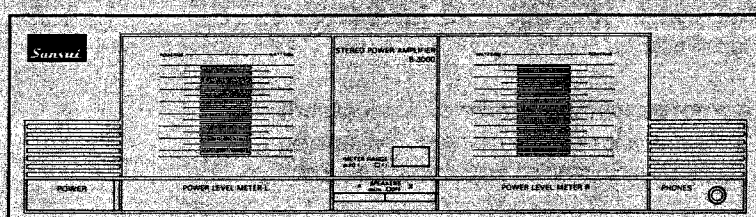


SERVICE MANUAL

STEREO POWER AMPLIFIER

SANSUI B-3000/1000



CAUTION

1. Parts identified by the \triangle symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

•SPECIFICATIONS

< B-3000 >

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.05% total harmonic distortion.

120 watts per channel into 8 ohms

Load impedance 8 to 16 ohms

Intermodulation distortion (70 Hz: 7 kHz = 4:1, SMPTE method) less than 0.01% at rated power output

Frequency response (at 1 watt)

..... 5 to 100,000 Hz,
+0 dB, -2 dB

Input sensitivity and impedance (at 1 kHz)

..... 1 V/33 kohms

Signal to noise ratio (short-circuit, A-network)

..... 110 dB

Power requirements AC 120V/220V/240V,
50/60 Hz

For U.S.A. & Canada AC 120V, 60 Hz

Power consumption 440 watts 540 VA Rated

Dimensions 430 mm (16-15/16") W
127 mm (5") H

224 mm (8-13/16") D

Weight 9.6 kg (21.2 lbs) net

< B-1000 >

Power output

Min. RMS, both channels driven, from 20 to 20,000 Hz, with no more than 0.05% total harmonic distortion.

75 watts per channel into 8 ohms

Load impedance 8 to 16 ohms

Intermodulation distortion (70 Hz: 7 kHz = 4:1, SMPTE method) less than 0.01% at rated power output

Frequency response (at 1 watt)

..... 5 to 100,000 Hz,
+0 dB, -2 dB

Input sensitivity and impedance (at 1 kHz)

..... 1 V/33 kohms

Signal to noise ratio (short-circuit, A-network)

..... 110 dB

Power requirements AC 120V/220V/240V,
50/60 Hz

Power consumption 300 watts

Dimensions 430 mm (16-15/16") W
127 mm (5") H

224 mm (8-13/16") D

Weight 7.0 kg (15.4 lbs) net

* Design and specifications subject to changes without notice for improvements.

* Due to local laws and regulations, this unit sold in some areas are not equipped with variable voltage selectors.

Sansui

SANSUI ELECTRIC CO., LTD.

NOTE

1. The symbols, UL, CSA, SA, BS, UK, EU, AS, SEV, SS, XX <EXPORT> and XX-V <EXPORT(V)> on the parts list and the schematic diagram mean followings respectively.

UL..... Manufactured for U.S.A market.
 (Underwriters Laboratories approved model.)
 CSA Manufactured for Canadian market.
 SA..... Manufactured for South African market.
 BS, UK Manufactured for United Kingdom market.
 EU Manufactured for European market.
 AS..... Manufactured for Australian market.
 SEV Manufactured for Swiss market.
 SS..... Manufactured for Saudi Arabian market.
 XX <EXPORT> Standard Version with Inner Voltage Selector.
 XX-V <EXPORT(V)> .. Standard Version with Outer Voltage Selector.
 NON MARK Common Parts.

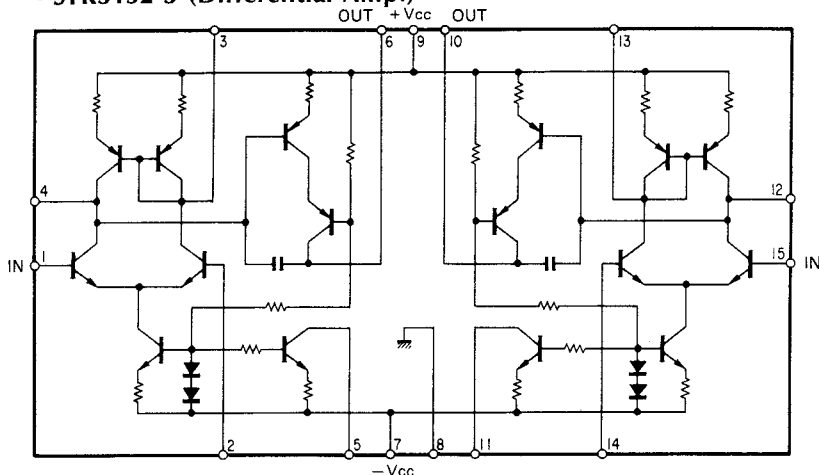
2. Some printed circuit boards are not supplied assembled. To separate these in this service manual, the stock numbers are not indicated for these boards. However, stock numbers for individual parts are indicated.
3. Since some capacitors and resistors are omitted from parts lists in this service manual, refer to the Common Parts List for capacitors and resistors, which was issued on February 1983.
4. Abbreviations in this service manual are as follows.

•Abbreviations List

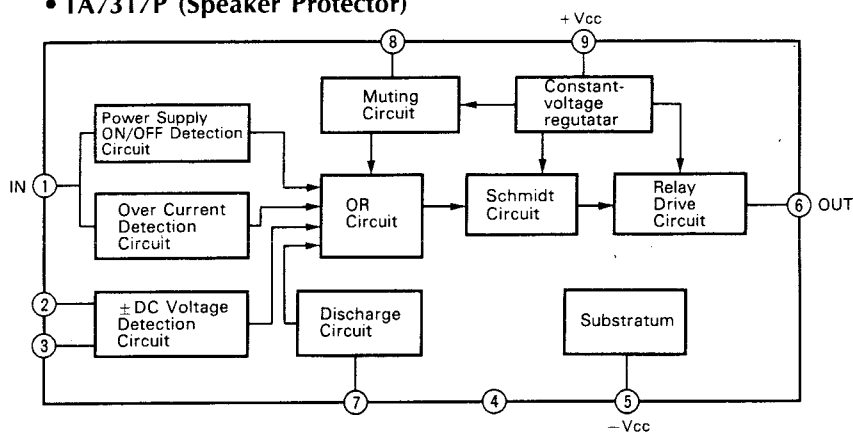
C.R. : Carbon Resistor	E.B.L. : Low Leak Bi-Polar
S.R. : Solid Resistor	Electrolytic Capacitor
Ce.R. : Cement Resistor	Ta.C. : Tantalum Capacitor
M.R. : Metal Film Resistor	F.C. : Film Capacitor
F.R. : Fusing Resistor	M.P. : Metalized Paper Capacitor
N.I.R. : Non-Inflammable Resistor	P.C. : Polystyrene Capacitor
A.R. : Array Resistor	G.C. : Gimmic Capacitor
C.C. : Ceramic Capacitor	A.C. : Array Capacitor
C.T. : Ceramic Capacitor,	V.R. : Variable Resistor
Temperature Compensation	S.V.R. : Semi Variable Resistor
E.C. : Electrolytic Capacitor	SW. : Switch
E.L. : Low Leak Electrolytic	Chip R. : Chip Resistor
Capacitor	Chip C. : Chip Capacitor
E.B. : Bi-Polar Electrolytic	
Capacitor	

1. INTERIOR BLOCK DIAGRAM OF IC

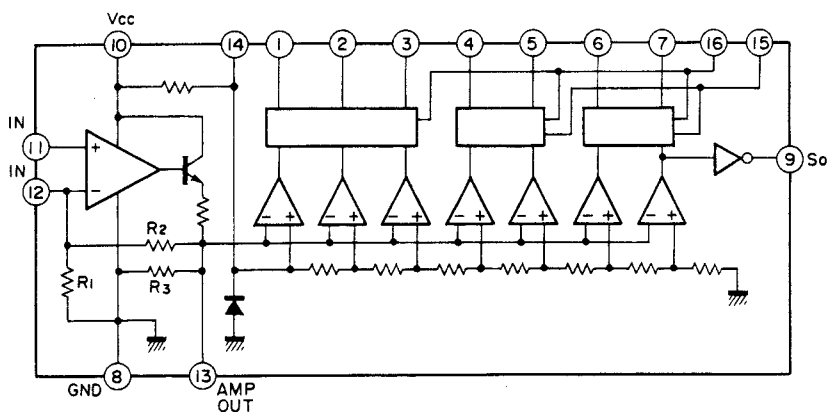
• STK3152-3 (Differential Amp.)



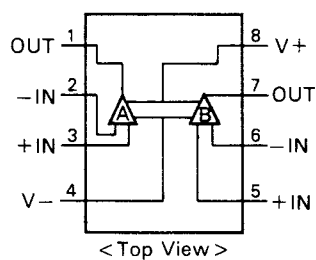
• TA7317P (Speaker Protector)



• IR2E29 (L.E.D. Drive)



• M5218P/NJM4558D (OP Amp.)



2. PARTS LIST OF BOARD

2-1. F-5778 Main Amp Board (Stock No. 01045301 = B-3000/01046201 = B-1000)

Parts No.	Stock No.	Description	Parts No.	Stock No.	Description
•Transistor			IQ7	03010901	2SA992
△kQ1	03067401	2SC1845	•IC		
△kQ2	48263101	2SC3298A <B-3000>	IIC1	46207600	TA7317P
△	07206401	2SD600K <B-1000>	•Diode		
△	or 48849101	2SC3944A <B-3000>	ID1	83000100	1N4148
△kQ3	48263001	2SA1306A <B-3000>	ID2	83000100	1N4148
△	07206301	2SB631K <B-1000>	ID3	83000100	1N4148
△	or 48849001	2SA1535A <B-3000>	ID5	83000100	1N4148 <B-3000>
△kQ4	46541401	2SC2921 <B-3000>	ID6	83000100	1N4148 <B-3000>
△	48490801	2SC3855 <B-1000>	ID7	83005000	1N4002
△kQ5	46541301	2SA1215 <B-3000>			
△	48490701	2SA1491 <B-1000>			
•IC					
kIC1	48127000	STK3152-3 <B-3000>	IPT1	48262800	Thermistor ZPP221C501A110
	48904300	STK3082-2A <B-1000>	△IPT2	48262700	Thermistor ZPP220T501A80
kIC2	03607700	NJM4558D	IC2	48101500	100μF 6.3V E.B.
or	46580100	M5218P			
△kR9	46228400	33Ω 1/2W N.I.R.	△IR14	46229000	100Ω 1/2W N.I.R.
△kR12	46228600	47Ω 1/2W N.I.R.	△IR15	46229000	100Ω 1/2W N.I.R.
△kR13	46228600	47Ω 1/2W N.I.R.	△IR16	46229300	180Ω 1/2W N.I.R. <B-3000>
△kR16	48197000	0.22Ω+0.22Ω 7W Ce.R.	△	46229100	120Ω 1/2W N.I.R. <B-1000>
		<B-3000>	△IR17	46229300	180Ω 1/2W N.I.R. <B-3000>
△	46184100	0.22Ω+0.22Ω 5W Ce.R.	△	46229100	120Ω 1/2W N.I.R. <B-1000>
		<B-1000>	△IR23	46249100	120Ω 1/2W N.I.R. <B-3000>
△kR17	46623100	10Ω 2W N.I.R.	△IR24	46249100	120Ω 1/2W N.I.R. <B-3000>
△kR23	46622300	2.2Ω 2W N.I.R.	△IR28	46229100	120Ω 1/2W N.I.R.
△kR51	46624700	220Ω 2W N.I.R.	△IR29	46227400	4.7Ω 1/2W N.I.R.
			IRL1	48524300	Relay, (DC 12V)
kC13	48103500	2.2μF 50V E.B.	or	48524400	Relay, (DC 12V)
kC14	48103700	4.7μF 50V E.B.	•Transistor		
kL1	83020100	Inductor	△mQ1	46614101	2SC3243
kM1	83020800	MOTOR <B-3000>	△mQ2	46614001	2SA1283
kVR1	83006800	500Ω S.V.R., Bias	•Diode		
•Transistor			△mD2	83004800	KBP02
IQ2	46367101	2SC2603	•Zener Diode		
or	46367301	2SC2458	mDZ1	46113900	05Z12-Y
or	48058801	2SC1740S	or	46114000	05Z12-Z
IQ3	46367001	2SA1115	mDZ2	46113900	05Z12-Y
or	46367201	2SA1048	or	46114000	05Z12-Z
or	48058601	2SA933S	△nR6	46230300	1.2kΩ 1/2W N.I.R.
IQ4	46367001	2SA1115 <B-3000>	oS1	83004700	Push SW., SPEAKERS
or	46367201	2SA1048 <B-3000>	oJ1	83002600	Jack, PHONES
or	48058601	2SA933S <B-3000>	oZ1	83003900	2P Terminal, INPUT
IQ5	48059401	2SA1284 <B-3000>			
IQ6	48863701	2SC2857			
or	48863901	2SC1473			

2-2. F-5779 Power Supply Board

Parts No.	Stock No.	Description
•Diode △mD1	83020900	KBPC802
△mR1	46626600	8.2kΩ 2W N.I.R.
△mR2	46626600	8.2kΩ 2W N.I.R.
△mR3	46622700	4.7Ω 2W N.I.R.
mC1	48846000	8200μF 80V E.C.
mC2	48846000	8200μF 80V E.C.
mC12	08680400	0.01μF 500V C.C.

2-3. F-5780 Speakers Terminal Board

Parts No.	Stock No.	Description
oZ2	83002300	8P Terminal, Speaker

2-4. F-5781 Meter Range SW., Board

Parts No.	Stock No.	Description
oS2	83004500	Push SW., METER RANGE

2-5. F-5782 Indicator Board

Parts No.	Stock No.	Description
•LED nLD9	48849300	SEL3913K, POWER

2-6. F-5784 Fuse Board

Parts No.	Stock No.	Description
△pF1	83022000	Fuse 4A <B-3000> (XX-V•SS)
	83029100	Fuse 8A <B-3000> (UL.CSA)
△	83021800	Fuse 2.5A <B-1000> (XX-V•SS)
△pF2	83022000	Fuse 4A <B-3000> (XX-V•SS)
△	83021800	Fuse 2.5A <B-1000> (XX-V•SS)

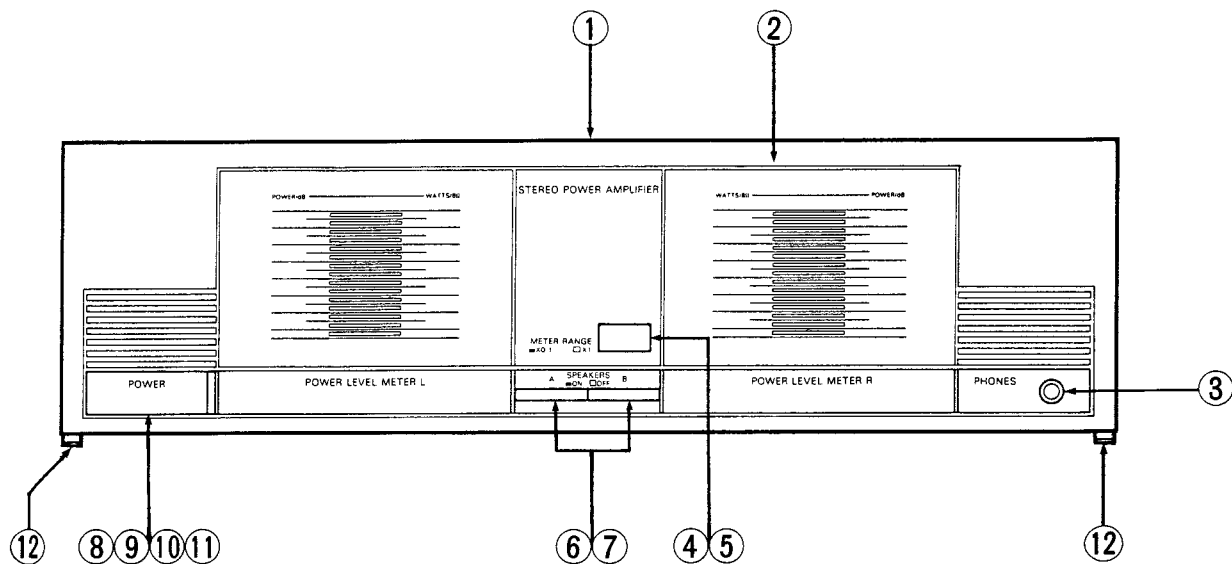
2-7. F-5783 Power Level Meter Board

(Stock No. 01045801)

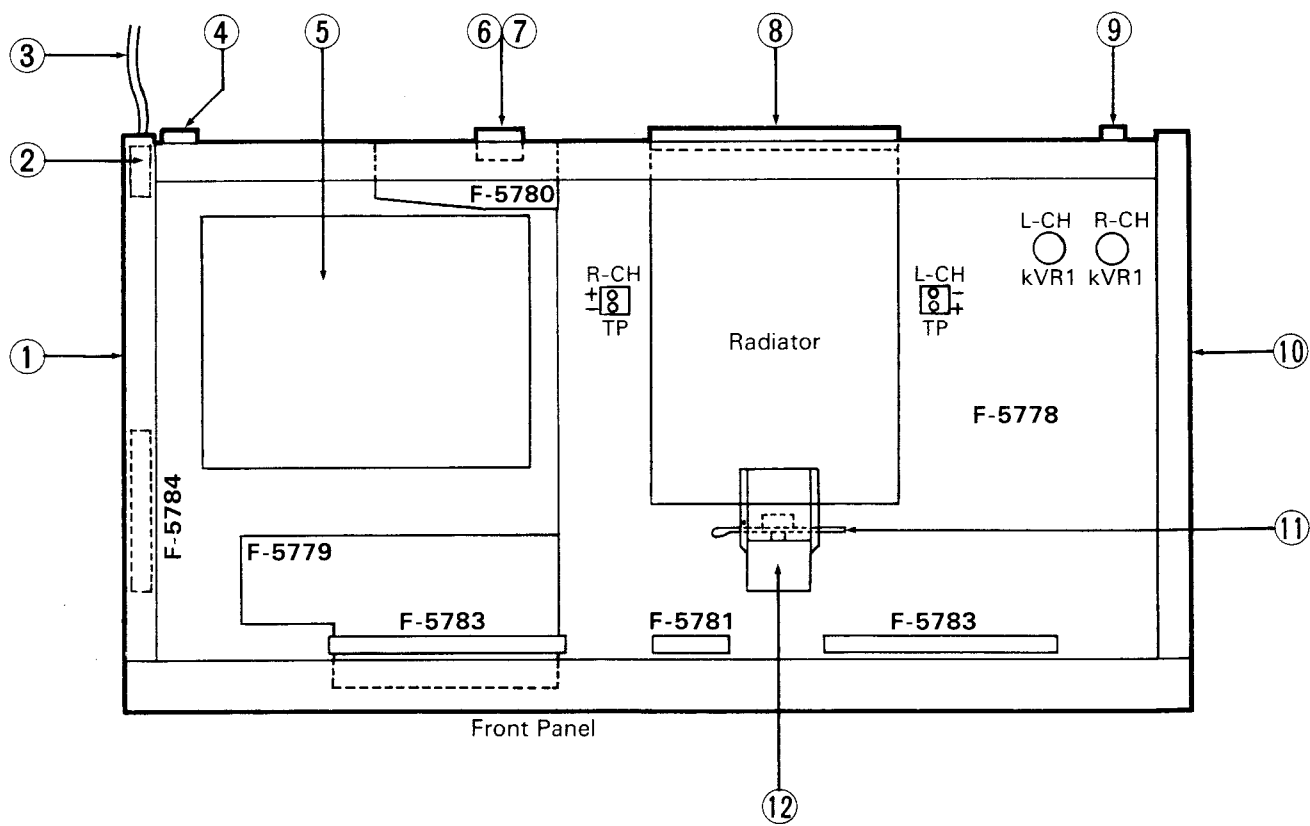
Parts No.	Stock No.	Description
•IC nIC1	46398400	IR2E29
•Zener Diode nDZ1	46109300 or 46109400	05Z3.0-X 05Z3.0-Y
•LED nLD1	48841300	SEL3813A
nLD2	48841300	SEL3813A
nLD3	48841300	SEL3813A
nLD4	48841300	SEL3813A
nLD5	48841300	SEL3813A
nLD6	48841300	SEL3813A
nLD7	48841300	SEL3813A
nLD8	48841300	SEL3813A

3. OTHER PARTS

• Front View



• Top View



•Parts List <Front View>

Parts No.	Stock No.	Description
1	84503900	Bonnet
2	37500101	Front Panel Ass'y <B-1000>
	37500001	Front Panel Ass'y <B-3000> (XX)
	37500002	Front Panel Ass'y <B-3000> (UL.CSA)
3	83002600	Jack, PHONES
4	48508800	Knob, METER RANGE
5	83004500	Push SW., METER RANGE
6	84508900	Knob, SPEAKERS
7	83004700	Push SW., SPEAKERS
8	84517800	Knob, POWER
△ 9	48113300	Push SW., POWER <B-1000>
△	46612900	Push SW., POWER <B-3000>
10	84505100	Spring, POWER
△ 11	46425800	0.01μF 400V C.C.
12	84527700	Leg

4. ADJUSTMENTS

•Notes

- Room Temperature 18°C ~ 28°C.
- For this adjustment run the unit for more than 5minutes after the power is switched ON.
- For the point of adjustment, see the Top View.
- See Top View on page 5 adjustment position.

STEP	MEASURE OUTPUT	ADJUST	ADJUST FOR
1 L-CH	Terminal (TP) Between emitters of Power transistors (KQ4 & KQ5)	KVR1 (F-5778) L-CH	5mV ±1mV
2 R-CH	Terminal (TP) Between emitters of Power transistors (KQ4 & KQ5)	KVR1 (F-5778) R-CH	5mV ±1mV

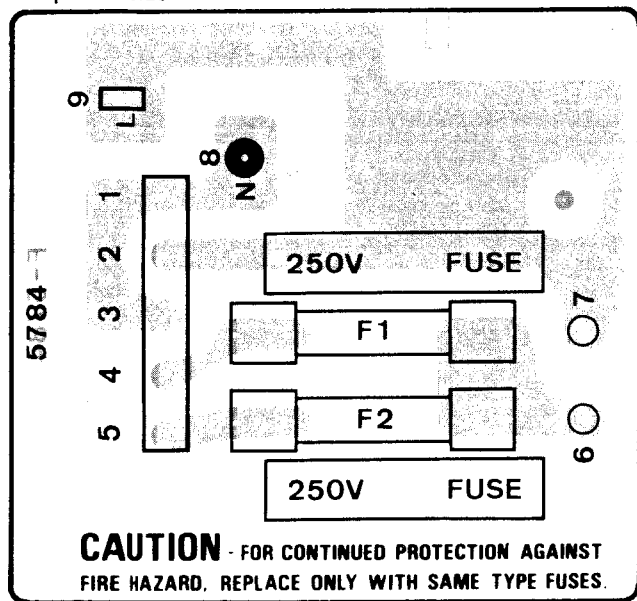
Parts List <Top View>

Parts No.	Stock No.	Description
1	84512000	Side Panel, Left <B-3000/1000>
	84519800	Side Panel, Left (UL.CSA) <B-3000>
2	84514000	AC Cord Holder
△ 3	83020000	Power Supply Cord (XX-V•SS)
△	83003600	Power Supply Cord (UL.CSA) <B-3000>
△	48837700	Power Supply Cord (SS)
△ 4	83004100	AC Outlet (XX-V•SS)
△	83002200	AC Outlet-Polarized (XX-V•SS)
△	83002200	AC Outlet (UL) <B-3000>
△ 5	83011509	Power Transformer with VOLTAGE SELECTOR Socket (XX-V•SS)
△	83011602	Power Transformer (UL.CSA) <B-3000>
6	48175200	Plug, VOLTAGE SELECTOR (XX-V•SS)
7	83002300	8p Terminal, SPEAKERS
8	84507500	HS Cover <B-3000>
9	83003900	2P Terminal, INPUT
10	84512100	Side Panel, Right <B-3000/1000>
	84519900	Side Panel, Right (UL.CSA) <B-3000>
11	07255000	Fan <B-3000>
12	83020800	DC Motor <B-3000>

5. PARTS LOCATION ON BOARD

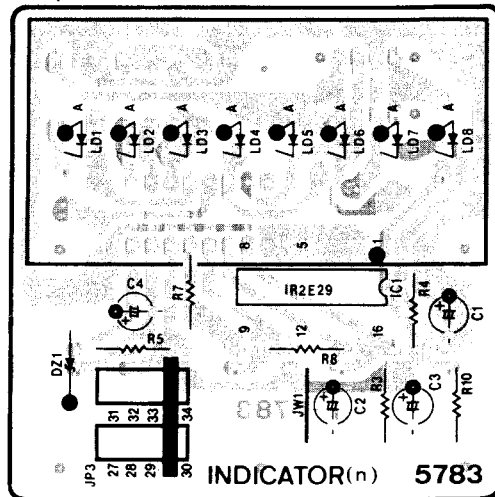
5-1. F-5784 Fuse Board

Component Side



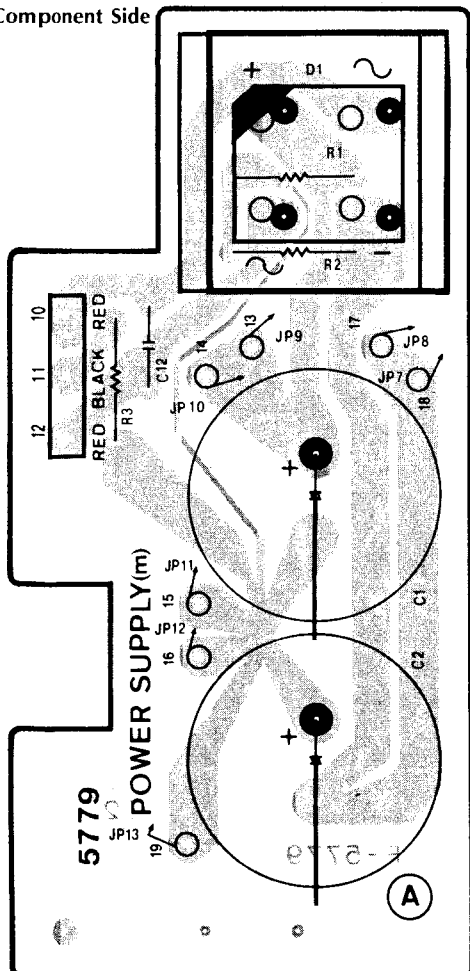
5-3. F-5783 Power Level Meter Board

Component Side



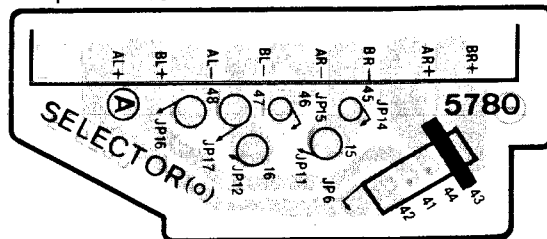
5-2. F-5779 Power Supply Board

Component Side



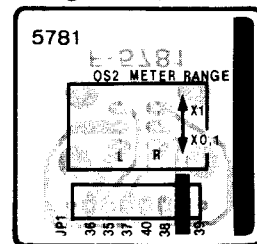
5-4. F-5780 Speakers Terminal Board

Component Side



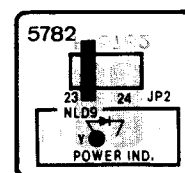
5-5. F-5781 Meter Range SW., Board

Component Side

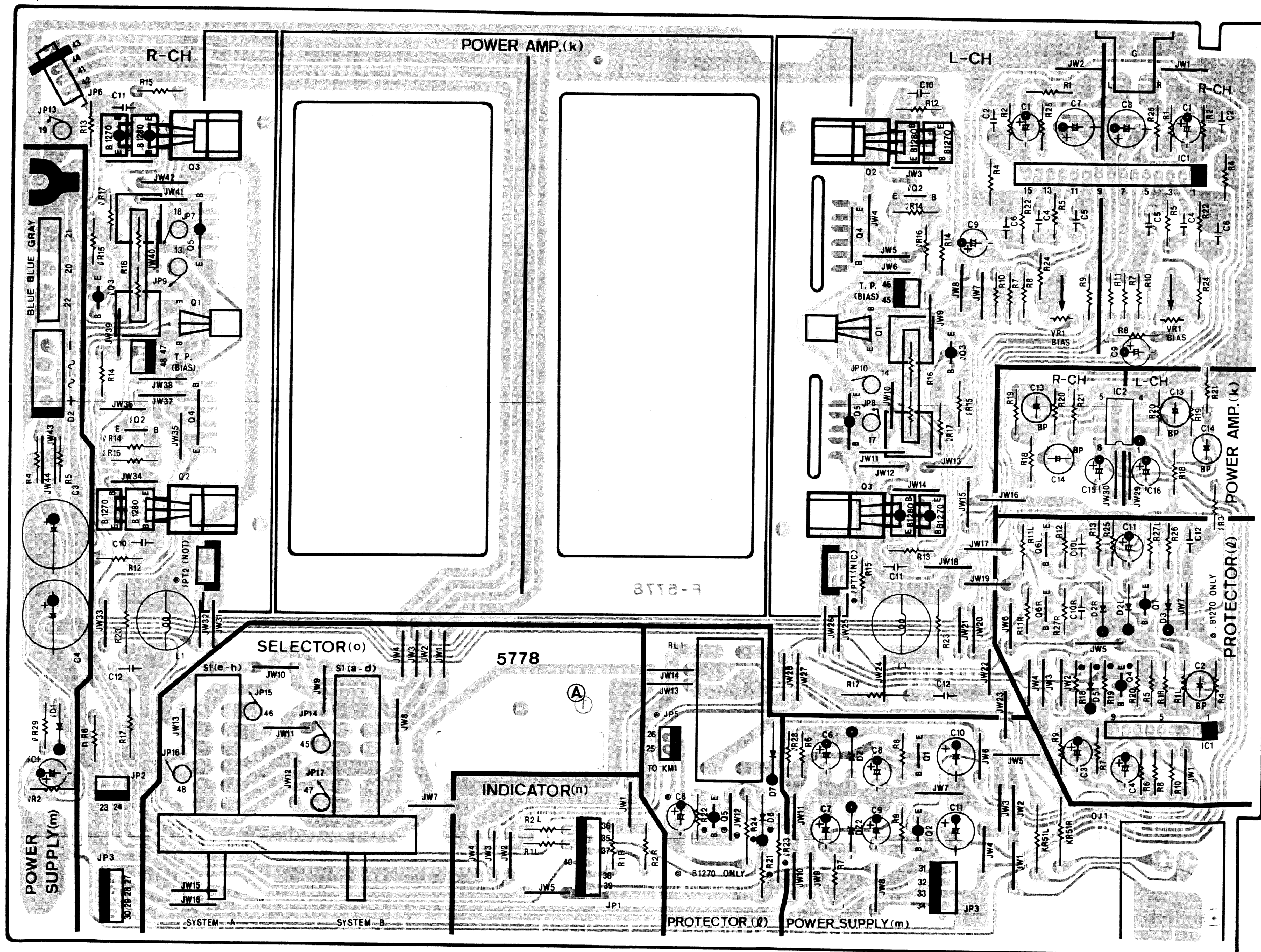


5-6. F-5782 Indicator Board

Component Side

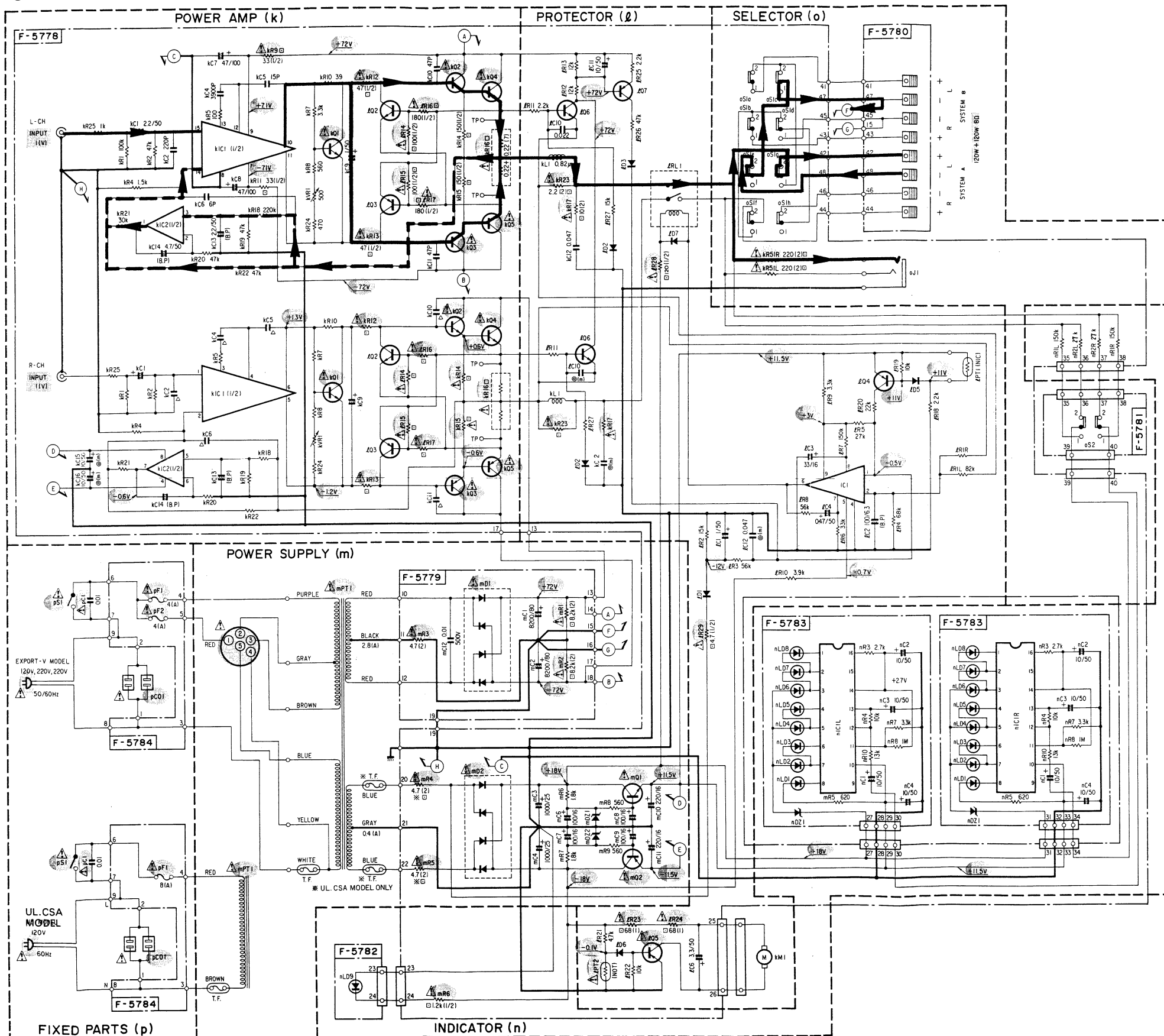


5-7. F-5778 Main Amp Board
Component Side



6. SCHEMATIC DIAGRAM 6-1. B-3000

• Design and specifications subject to change without notice for improvement.
 • La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 • Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



SYMBOL
 Δ Ceramic
 (B.P.) Bi-Polar Electrolytic
 (M) Mylar
 □ Non-Inflammable Resistor
 □ Cement Resistor

RESISTORS
 Are in ohms, 1/4 Watts, ±5% Tolerance
 Unless Otherwise Noted: k, K, M, MΩ

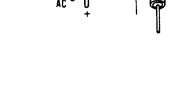
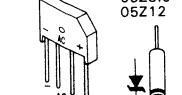
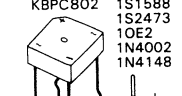
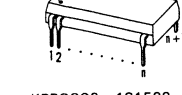
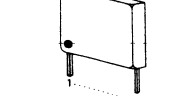
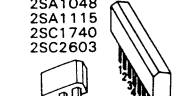
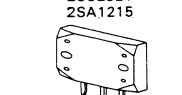
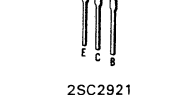
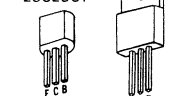
CAPACITORS
 Are in pF, Unless Otherwise Noted: p, pF
 Electrolytic Capacitor
 Capacitance (pF) / Volt (V)

Each D.C. Voltage shows the nominal value
 in volts or no input signal
 during recording

⚠ is Safety Part.
 Use only replacement parts
 recommended by the manufac-
 turer

SYMBOL OF FUNCTION
 (k) POWER AMP
 (n) INDICATOR
 (m) POWER SUPPLY
 (o) SELECTOR
 (p) FIXED PARTS
 (l) PROTECTOR

2SA992 2SA1306
 2SA1248 2SA1306A
 2SA1283 2SC3298A
 2SA1284 2SC3944A
 2SC1845
 2SC2857



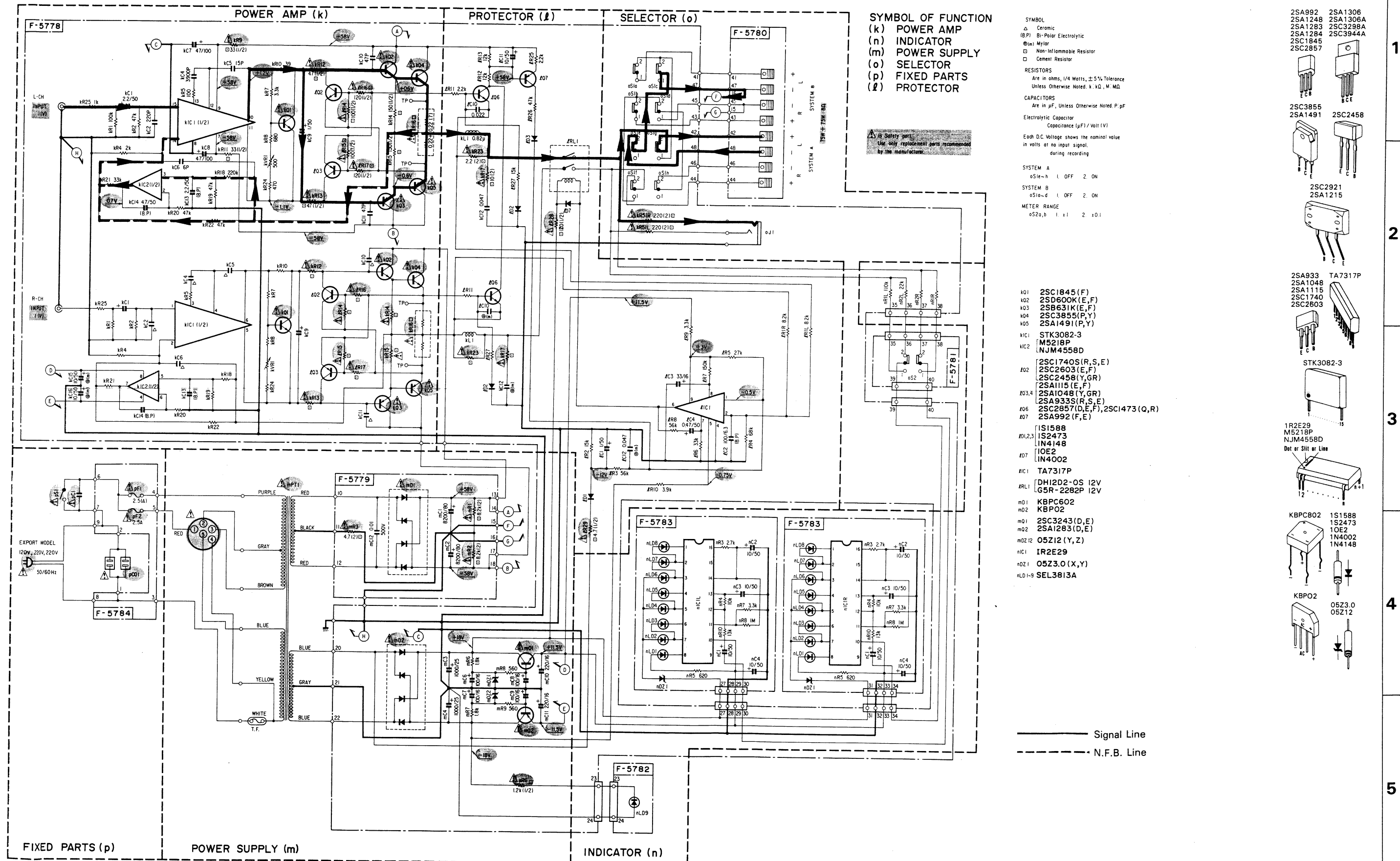
V01 2SC1815 (F)
 V02 2SC3298A (O,Y)
 V03 2SC3944A (R,S)
 V04 2SA1306A (O,Y)
 V05 2SA1535A (R,S)
 V06 2SC2921 (O,Y)
 V07 2SA1215 (O,Y)
 V08 STK3152-3
 V09 M5218P
 V10 NJM4558D
 V11 RF-501T I2620
 V12 2SC1740S (R,S)
 V13 2SC2603 (E,F)
 V14 2SC2458 (Y,GR)
 V15 2SA1115 (E,F)
 V16 2SA1048 (Y,GR)
 V17 2SA933S (R,S)
 V18 2SA1248 (C,D,E)
 V19 2SC1473 (O,R), 2SC2857 (D,E)
 V20 2SA992 (F,E)
 V21 1S1588
 V22 1S2473
 V23 1N4148
 V24 10E2
 V25 1N4002
 V26 TA7317P
 V27 ZPP221C501A110
 V28 ZPP220T501A80
 V29 DH12D2-OS 12V
 V30 G5R-2282P 12V

mD1 KBPC802
 mD2 KBP 02
 mD3 2SC3243 (D,E)
 mD4 2SA1283 (D,E)
 mD5 05Z12 (Y,Z)
 mD6 1R2E29
 mD7 05Z3.0 (X,Y)
 mD8 SEL3813A
 mD9

— Signal Line
 - - - N.F.B. Line

6-2. B-1000

* Design and specifications subject to change without notice for improvement.
 * La présentation et les spécifications sont susceptibles d'être modifiées sans préavis par suites d'améliorations éventuelles.
 * Änderungen, die dem technischen Fortschritt dienen, bleiben vorbehalten.



7. MAIN PARTS REPLACEMENT

A. Bonnet (Fig. 7-1)

- 1) Loosen two Screws (SA) fixing the Bonnet.
- 2) Lift up the Bonnet to remove.

B. Bottom Plate (Fig. 7-2)

- 1) Loosen Screws (SB) (SC) fixing the Bottom Plate.
- 2) Lift up the Bottom to remove.

C. Side Panel, Left (Right) (Fig. 7-3)

- 1) Remove the bonnet and Bottom Plate.
- 2) Shift the position of the Side Panel 2.0cm in the arrow direction (1).
- 3) Remove the hooks of side panel from front panel and them pullit the arrow direction (3) to the Side Panel Left (Right).
- 4) Lift up PCB guide (X) of the Front Panel Assy to pull out the PCB (Fig. 7-4).

Fig. 7-1

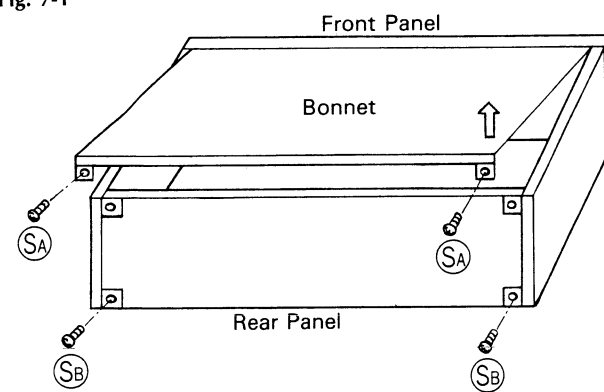


Fig. 7-2

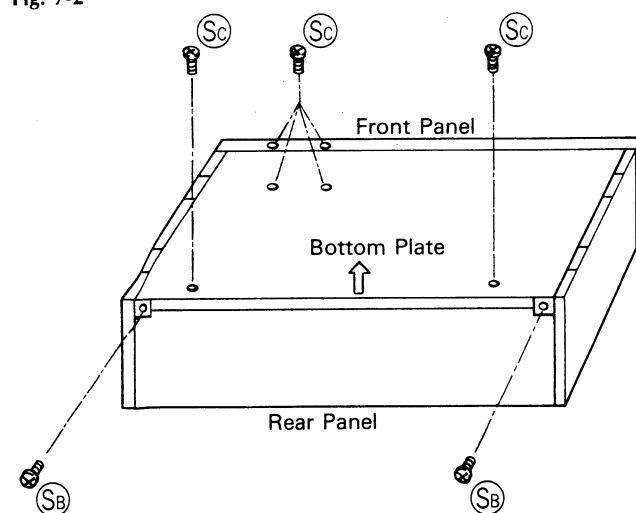


Fig. 7-3

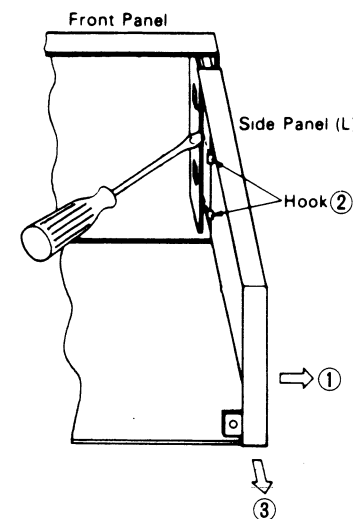
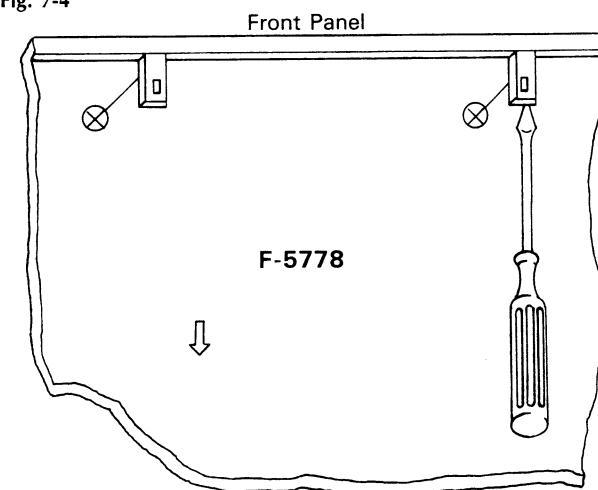
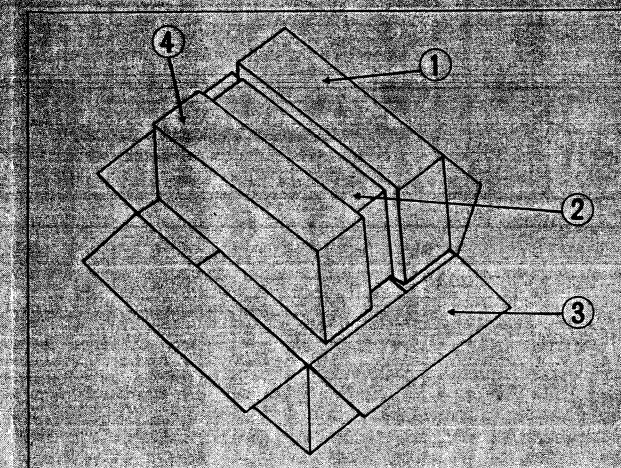


Fig. 7-4



8. PACKING LIST

Parts No.	Stock No.	Description
1	84521900	Styrofoam Packing (Back)
2	84519200	Vinyl Bag
3	84520700	Carton Case <B-1000>
	84520500	Carton Case <B-3000>
4	84522000	Styrofoam Packing (Front)



9. ACCESSORY LIST

Stock No.	Description
49026600	Operating Instruction <B-1000>
49026700	Operating Instruction <B-3000>

Sansui

SANSUI ELECTRIC CO., LTD.
SANSUI ELECTRONICS CORPORATION
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SANSUI ELECTRONICS G.M.B.H.

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(SM1-347)

(1987, 4.M) <Stock No. 36530300>



SERVICE MANUAL SUPPLEMENT EDITION

B-1000 B-3000

STEREO POWER AMPLIFIER

NOTE

This edition is supplement for B-3000/1000 Service Manual previously issued, and applies to all B-3000 and B-1000 with NEW SANSUI MARK on the front panel. For servicing, please refer to this edition together with original B-3000/1000 Service Manual.

NOTICE:

Since the circuits of motor drive control and protector section employed in B-1000 (CSA•EU and SEV) are similar to those of B-3000, the schematic diagram of those circuits are omitted from this manual, therefore please refer to the schematic diagram of B-3000.

CAUTION

1. Parts identified by the Δ symbol on the schematic diagram and the parts list are critical for safety. Use only replacement parts that have critical characteristics recommended by the manufacturer.
2. Make leakage-current or resistance measurements to determine that exposed parts are acceptably insulated from the supply circuit before returning the appliance to the customer.

NOTICE:

1. The symbols, UL, CSA, SS, EU, SEV and XX (EXPORT) on the parts list mean followings respectively.
UL Manufactured for U.S.A market. (Underwriters Laboratories approved model)
CSA Manufactured for Canadian market. SS Manufactured for Saudi Arabia market.
EU Manufactured for European market. SEV Manufactured for Swiss market.
XX (EXPORT) Standard Version. NON MARK Common Parts.
2. On the parts list, the changed parts are specified by “#” mark on top of the Parts No.

I. OTHER PARTS

Parts List <Top View>

Parts No.	Stock No.	Description
1	84512000	Side Panel, Left for B-1000
	84512000	Side Panel, Left for B-3000 (XX-CSA-SS)
	84519800	Side Panel, Left for B-3000 (UL)
2	84514000	AC Cord Holder
△ # 3	83001800	Power Supply Cord for B-1000 (XX)
△ #	83020000	Power Supply Cord-polarized (XX-CSA)
△	83003600	Power Supply Cord for B-3000 (UL)
△ #	83000600	Power Supply Cord for B-1000 (EU-SEV)
△	48837700	Power Supply Cord (SS)
△	83004100	AC Outlet (XX-SS)
△	83002200	AC Outlet-polarized (XX-UL-CSA)
△ 5	83011509	Power Transformer for B-1000 (XX-SS)
△ #	83011503	Power Transformer for B-1000 (CSA)
△ #	83046905	Power Transformer for B-1000 (EU-SEV)
△	83011609	Power Transformer for B-3000 (XX-SS)
△	83011602	Power Transformer for B-3000 (UL-CSA)
△ 6	48175200	Plug, voltage selector (XX-SS)
7	83002300	8P Terminal, SPEAKERS
8	84507500	HS Cover for B-1000 (CSA-EU-SEV)
	84507500	HS Cover for B-3000
9	83003900	2P Terminal, INPUT
10	84512100	Side Panel, Right for B-1000
	84512100	Side Panel, Right for B-3000 (XX-SS-CSA)
	84519900	Side Panel, Right for B-3000 (UL)
11	07255000	Fan for B-1000 (CSA-EU-SEV)
	07255000	Fan for B-3000
12	83020800	DC Motor for B-1000 (CSA-EU-SEV)
	83020800	DC Motor for B-3000
	47878000	Sleeve, Fan for B-1000 (CSA-EU-SEV)
	47878000	Sleeve, Fan for B-3000

Parts List <Front View>

Parts No.	Stock No.	Description
1	84503900	Bonnet
# 2	37503201	Front Panel Ass'y for B-1000
#	37503101	Front Panel Ass'y for B-3000 (XX-SS)
#	37503102	Front Panel Ass'y for B-3000 (UL-CSA)
3	83002600	Jack, PHONES
4	84508800	Knob, METER RENG
5	83004500	Push SW, METER RENG
6	84508900	Knob, SPEAKERS
7	83004700	Push SW, SPEAKERS
# 8	84567000	Knob, POWER
△ 9	48113300	Push SW, POWER for B-1000
△	46612900	Push SW, POWER for B-3000
10	84505100	Spring, POWER
△ #11	46425800	0.01μF 400V C.C.
12	84527700	Leg

2. PACKING LIST

Parts No.	Stock No.	Description
1	84521900	Styrofoam Packing (Front)
2	84519200	Vinyl Bag
# 3	84560400	Carton Case for B-1000
#	84560300	Carton Case for B-3000
4	84522000	Styrofoam Packing (Rear)

3. ACCESSORY LIST

	Stock No.	Description
#	84453100	Operating Instruction for B-1000 (E·F·S·I)
#	84453200	Operating Instruction for B-1000 (G·Sw)
#	84452800	Operating Instruction for B-3000

E, F, S, I; English, French, Spanish and Italian Version

G, Sw ; German and Swedish Version



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